

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

**CLEANUP AND ABATEMENT ORDER NO. 6-98-18
WDID NO. 6A099803N01**

**Requiring J. E. Tveten Corporation to Clean Up and Abate the Effects of the
Discharge of Petroleum Products to the Ground Waters of the
Lake Tahoe Hydrologic Unit at 3208 Highway 50 in Meyers**

El Dorado County_____

The California Regional Water Quality Control Board, Lahontan Region (Regional Board), finds:

1. The Beacon Gas Station is located at 3208 Highway 50 in Meyers, El Dorado County Assessor's Parcel Number 034-321-191. The property and gas station is owned by J. E. Tveten Corporation, with Mr. Joe Tveten being the principal contact.
2. During the week of July 8 through July 12, 1996, three 12,000 gallon gasoline underground storage tanks, one 12,000 gallon diesel underground storage tank, one 350 gallon used oil underground storage tank, and one 350 gallon heating oil (diesel) underground storage tank were removed from the gas station. Contaminated soil was observed in the tank basin beneath the former heating oil tank and beneath the product piping by the station building. The highest concentration left in soil within the excavation was 140 ppm as Total Petroleum Hydrocarbons (Diesel). A ground water sample collected from approximately 16 feet below ground surface in the excavation bottom contained petroleum hydrocarbons:

Ethylbenzene	0.55 µg/l
Xylenes	5.6 µg/l
Methyl tert-butyl ether (MTBE)	15.0 µg/l
Total Petroleum Hydrocarbons (Gasoline)	180.0 µg/l
Total Petroleum Hydrocarbons (Diesel)	740.0 µg/l

3. The El Dorado County Department of Environmental Management approved a workplan submitted by the Mr. Tveten's consultant, Wheeldon and Associates, to drill five temporary borings around the tank basin to define the extent of ground water pollution. Only one water sample, #W960827-2, collected on August 27, 1996, contained petroleum hydrocarbons:

Toluene	1.0 µg/l
Xylenes	0.69 µg/l
Total Petroleum Hydrocarbons (Gasoline)	150.0 µg/l

4. After submitting a workplan to the Regional Board, water samples were collected from four temporary borings on September 12, 1996. The sample locations were downgradient of the tank basin and sample locations from August 27, 1996. All water samples showed non-detect levels of petroleum hydrocarbons. No corrective actions were required for ground water or soil contamination at the site. The Regional Board Executive Officer issued a case closure letter on September 24, 1996.
5. On September 30, 1997, the South Tahoe Public Utility District (STPUD) collected a monthly water sample from the two Arrowhead municipal water supply wells on the corner of Arrowhead and Hopi in Meyers. A laboratory analysis detected MTBE at 1.4 µg/l in the sample from the Arrowhead #2 well. Subsequent monthly water samples to February 1998 showed MTBE ranging from 1.8 to 3.3 µg/l in both municipal supply wells.
6. In a November 25, 1997 letter, the Regional Board Executive Officer directed Mr. Tveten to submit a workplan for a ground water investigation to determine whether the Beacon Gas Station was the source of MTBE in the Arrowhead municipal supply wells. The Beacon Gas Station is approximately 1,300 feet from the Arrowhead municipal supply wells in an assumed upgradient direction. No workplan was received by the December 31, 1997 deadline.
7. The Regional Board Executive Officer issued a January 16, 1998 letter to Mr. Tveten, informing him that the ground water investigation workplan was delinquent. Mr. Tveten was warned that if the workplan was not received at the Regional Board office by January 23, 1998, he could be subject to an administrative civil liability.
8. Mr. Tveten's consultant, Vector Engineering, submitted a workplan to the Regional Board on January 27, 1998. The workplan proposed to drill six temporary borings at the Beacon Gas Station to collect soil and water samples. Regional Board staff approved the workplan on January 30, 1998, recommending that water samples be collected from eight borings at the gas station, instead of six.
9. A report with preliminary ground water investigation results was submitted to the Regional Board on February 26, 1998. The report shows that laboratory analyses detected petroleum hydrocarbons in six of the eight water samples collected at the Beacon Gas Station on February 13-16, 1998. The highest concentrations were detected adjacent to the underground storage tank basin, in sample GP-7:

Toluene	920 µg/l
Ethylbenzene	58 µg/l
Xylenes	4,200 µg/l
MTBE	28,000 µg/l
Total Petroleum Hydrocarbons (Gasoline)	12,000 µg/l

10. The beneficial uses of ground water in the area as designated in the 1995 Water Quality Control Plan for the Lahontan Region, include municipal and domestic supply, agricultural supply, fresh water replenishment, and industrial service supply.
11. The 1995 Water Quality Control Plan for the Lahontan Region establishes water quality objectives for the protection of beneficial uses. Those objectives include the following Maximum Contaminant Levels (MCL) and Action Levels (AL) that have been established by the California Department of Health Services as safe levels to protect public drinking water supply:

Benzene	1µg/l (MCL)
Toluene	150 µg/l (MCL)
Ethylbenzene	700 µg/l (MCL)
Xylenes	1750 µg/l (MCL)
MTBE	35 µg/l (AL)

The Water Quality Control Plan contains the following narrative taste and odor objective for the Lake Tahoe Hydrologic Unit:

Ground waters shall not contain taste or odor-producing substances in concentrations that cause nuisance or that adversely affect beneficial uses. For ground waters designated as municipal and domestic supply, at a minimum, concentrations shall not exceed adopted secondary maximum contaminant levels specified in...Title 22 of the California Code of Regulations which is incorporated by reference into this plan.

The following Taste and Odor Thresholds (TOT) are proposed as secondary water quality goals by the United States Environmental Protection Agency for drinking water. Petroleum concentrations above these levels would not comply with the narrative taste and odor objective in the Water Quality Control Plan:

Toluene	42 µg/l (TOT)
Ethylbenzene	29 µg/l (TOT)
Xylenes	17 µg/l (TOT)
MTBE	20 µg/l (TOT)
Total Petroleum Hydrocarbons (Gasoline)	50 µg/l (TOT)
Total Petroleum Hydrocarbons (Diesel)	100 µg/l (TOT)

The more stringent numeric standard is the applicable water quality objective for each constituent.

12. The ground water concentrations of Toluene, Ethylbenzene, Xylenes, MTBE, and Total Petroleum Hydrocarbons as Gasoline (Finding No. 9) exceed water quality objectives which

are protective of water quality for ground water specified in the 1995 Water Quality Control Plan for the Lahontan Region. The concentrations adversely affect the ground water for its designated uses listed in the 1995 Water Quality Control Plan for the Lahontan Region: municipal and domestic supply, agricultural supply, fresh water replenishment, and industrial service supply. The levels of waste in ground water, therefore, constitute a pollution, as defined in Section 13050 of the California Water Code.

13. The underground storage tank basin on the subject property overlies shallow ground waters and is located approximately 1,300 feet upgradient from the STPUD's Arrowhead municipal supply wells. The discharge of petroleum products from the underground storage tanks has polluted the ground water and may be contributing to degradation of water in the municipal supply wells.
14. The discharge of petroleum products to the ground waters of the Lake Tahoe Hydrologic Unit as described in Finding No. 9 above violates a prohibition for the Lake Tahoe Hydrologic Unit contained in the 1995 Water Quality Control Plan for the Lahontan Region. Specifically, the discharge violates and threatens to violate the following discharge prohibition in the Plan:

“3. The discharge of waste earthen material or of any other waste as defined in Section 13050(d) of the California Water Code which would violate the water quality objectives of this plan, or otherwise adversely affect the beneficial uses of water designated by this plan, is prohibited.”
15. This enforcement action is being taken by this regulatory agency to enforce the provisions of the California Water Code and as such is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000 et. seq.) in accordance with Section 15321, Chapter 3, Title 14, of the California Code of Regulation.

THEREFORE, IT IS HEREBY ORDERED that pursuant to California Water Code Sections 13267 and 13304, the J. E. Tveten Corporation shall clean up and abate the discharge and threatened discharge of petroleum hydrocarbons and other wastes discharged to waters of the state or deposited where they probably will be discharged to waters of the state, and shall comply with the provisions of this order:

1. The J. E. Tveten Corporation shall conduct the investigation and cleanup tasks by or under the direction of a California registered geologist or registered civil engineer experienced in the area of ground water pollution cleanup.
2. The J. E. Tveten Corporation shall take no action that causes or permits or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into waters of the state.

3. By **April 3, 1998**, submit a final version of the February 1998 ground water investigation report for the Beacon Gas Station. Include a workplan that proposes method(s) to fully delineate the lateral and vertical extent of petroleum pollution (1) in soil and (2) in ground water emanating from the gas station. The supplemental investigation must be able to determine the migration pathway of petroleum constituents towards the Arrowhead wells. The workplan shall discuss a means to evaluate the presence of potential ethers, other than MTBE, and alcohols which could be present in ground water from gasoline products. The workplan must also propose interim remediation and a system design to prevent pollution from migrating from the gas station property.
4. By **April 23, 1998**, following approval by Board staff, implement the ground water investigation workplan and interim remediation referenced in Order No. 3 above.
5. By **May 28, 1998**, submit a technical report to this Regional Board that defines the boundaries of soil and ground water pollution from the Beacon Gas Station to the Arrowhead municipal supply wells. Show non-detect soil and ground water pollution contours for MTBE, BTEX compounds, and TPH-gasoline on site maps. Describe the vertical thickness of petroleum pollution at the source area and towards the STPUD's Arrowhead wells. State the depth of unconfined and confined aquifers. Discuss whether the unauthorized release of petroleum products is current or related to a previous event. If the release is current, describe what actions will be taken to stop the release. Submit information that shows that clean up and abatement is in operation to prevent the ground water plume from migrating from the gas station property. Such information shall include permits and paperwork from applicable agencies to operate the interim remediation system, and other information regarding removal rates, influent and effluent concentrations, area of influence of the system, etc. Propose an off-site location and a remediation method for containing ground water pollution and preventing impacts to the STPUD's Arrowhead wells. Show designs for the off-site system. If the non-detect lateral and vertical boundaries of the ground water plume were not defined in the previous investigation, include a workplan that proposes additional ground water sampling points.
6. By **June 25, 1998**, following approval by Board staff, implement off-site plume containment referenced in Order No. 5 above and additional ground water investigation, if needed.
7. By **August 3, 1998**, submit to this Regional Board a technical report with information that shows cleanup and abatement of the ground water plume is in operation at the off-site location. Such information shall include permits and paperwork from applicable agencies to operate a remediation system, and other information regarding removal rates, influent and effluent concentrations, area of influence of the system, etc. If an additional ground water investigation was conducted, provide information described in Order No. 5 above to show the full boundaries of the plume. Submit a workplan proposing monitoring wells within the plume to monitor hydrocarbon trends. Also propose monitoring wells outside the plume

boundaries to act as guard wells. Enclose well designs. In addition, propose pilot tests for permanent remediation at the Beacon Gas Station property.

8. By **August 21, 1998**, following approval by Board staff, begin installing monitoring wells and conducting pilot tests referenced in Order No. 7 above.
9. By **October 15, 1998**, submit a technical report describing monitoring well installation and ground water sampling. The report shall include ground water elevations from wells surveyed by a state licensed surveyor or civil engineer. Include a potentiometric map with water table contours and calculations for ground water flow direction and gradient. Non-detect ground water pollution contours for MTBE, BTEX compounds, and TPH-gasoline shall be shown on site maps. Enclose lithologic logs and well designs. Prepare geologic cross-sections for the length and width of the ground water plume. Describe cleanup and abatement activities on and off the gas station property. Discuss the effectiveness of the remediation systems to contain ground water pollution and prevent impacts to the Arrowhead municipal supply wells, based upon monitoring well sampling data and the potentiometric map. If the remediation systems are not effective, propose modifications to make them so. Discuss the results of pilot tests at the gas station. Enclose a corrective action plan in the report that proposes three options for a permanent remediation system to clean up pollution at the Beacon Gas station. The corrective action plan shall give estimate cleanup times and cleanup costs for each option and state a recommended option.
10. Beginning **November 1, 1998**, collect water samples from all monitoring wells once every two months. Submit to the Regional Board progress reports within 45 days of sampling. Reports shall contain results of monitoring well samples and a discussion on the clean up status which demonstrates continued compliance with clean up and abatement required by this Regional Board. The reports shall include bi-monthly ground water monitoring data to indicate the concentrations of Benzene, Toluene, Xylenes, Ethylbenzene, MTBE, and Total Petroleum Hydrocarbons in ground water, and other ethers and alcohols, if present. All data shall be cumulatively tabulated. Ground water pollution contours for Benzene, MTBE, and Total Petroleum Hydrocarbons must be shown on maps in each report. In addition, a potentiometric map shall be enclosed which shows water table contours, the direction of ground water flow direction and the calculated gradient. Include a table listing the periods when the cleanup system is down for 24 hours or more and provide an explanation. Subsequent progress reports will be submitted on February 15, April 15, June 15, August 15, October 15, and December 15 of each year, unless revised by the Regional Board Executive Officer.
11. By **December 10, 1998**, after approval of the corrective action plan by Board staff, submit a final design for the permanent remediation system at the Beacon Gas Station and an implementation schedule for ordering, permitting, installing, and operating the system. Upon approval of the schedule by Board staff, implement permanent remediation. Such cleanup and abatement activities shall continue at the site until Board staff agrees to its termination.

J.E. TVETEN CORPORATION
El Dorado County

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CLEANUP AND ABATEMENT
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Failure to comply with the terms or conditions of this Order will result in additional enforcement action which may include the imposition of administrative civil liability pursuant to Sections 13268 and 13350 of the California Water Code or referral to the Attorney General of the State of California for such legal action as he or she may deem appropriate.

Ordered by: _____ Dated: _____
HAROLD J. SINGER
EXECUTIVE OFFICER